REMARKS

A final Office Action was mailed on January 11, 2005. Claims 1 – 12 are pending in the present application. With this Response, Applicant amends claims 1 and 7. No new matter is introduced. Support for the amendments may be found for example, in Applicant's specification at page 12, lines 11 through page 13, line 25.

REJECTION UNDER 35 U.S.C. § 103

Claims 1, 2, 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,252,855 to Langley in view of U.S. Patent No. 5,307,351 to Webster. Claims 3 and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Langley in view of Webster and U.S. Patent No. 6,370,173 to Shaffer et al. Claims 4 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Langley in view of Webster and U.S. Patent No. 5,579,301 to Ganson et al. Claims 5, 6, 11 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Langley in view of Webster and U.S. Patent No. 5,115,429 to Hluchyj et al. Applicant amends claims 1 and 7 to further clarify the nature of his invention, and respectfully traverses the rejections.

In amended independent claims 1 and 7, Applicant respectively discloses a method and router for routing audio packets together with data packets in a network. For example, in amended independent claim 1, Applicant discloses:

> 1. A method of changing a fragment size of data packets in a router where a data packet is divided into data packets having the fragment size, and the data packets are transmitted to a network along with audio packets, comprising the steps of:
>
> acquiring, in the router, a parameter indicative of whether proper audio quality is maintained through ongoing transmission of the audio packets; and
>
> dynamically changing the fragment size of the data packets in response to the acquired parameter, wherein the step of dynamically changing further includes the steps of:

comparing a current value of the parameter to an average value of the parameter;

increasing or decreasing the fragment size in relation to a default fragment size when a deviation of the current value of the parameter from the average value of the parameter exceeds a predetermined threshold for a first predetermined period of time; and

resuming the default fragment size when the deviation of the current value of the parameter from the average value of the parameter falls below the predetermined threshold for a second predetermined period of time.

In a Response to the Office Action of May 10, 2004, Applicant made the following arguments:

> Langley discloses a method and apparatus for negotiating a maximum frame size to be used by endpoint devices at least an originator of frames and a recipient of frames in a frame relay network (see, e.g., abstract of Langley). According to the method of Langley (see, e.g., column 2, line 63 to column 3, line 25 of Langley):
>
> > Each endpoint device can receive an acceptable delay for each originating device that uses the endpoint device to send information over the frame relay network. The endpoint device uses the lowest of the acceptable delays and the speed of the line to calculate the maximum size frame it can send and receive in order to maintain delays below the lowest acceptable level. Each endpoint device then transmits the maximum frame size it calculates to other endpoint devices on the frame relay network from which it is capable of receiving frames. Each endpoint device on the network sends frames that are not larger than the lower of the sending endpoint device's maximum frame size and the receiving endpoint device's maximum frame size.
> >
> > The resulting frames are the largest size that will not exceed an acceptable level of delay for either the sending or receiving device, minimizing the network traffic impact without exceeding the acceptable delay of the sending and receiving endpoint device. The frame sizes are tailored to the needs of each pair of endpoint devices: endpoint devices in communication for which the maximum possible delay is acceptable can use the maximum allowable frame size for the network, such as 4096 bytes. Other endpoint devices in communication will use a lower size frame, but not lower than necessary to ensure a delay not greater than the acceptable delay, minimizing the network traffic impact to that which is necessary to accommodate the needs of each device in communication.
>
> Webster discloses a data communication apparatus directed to adjusting a length of data frames being assembled based on a determined degree of impairment of the communications medium (se, e.g., abstract of Webster). The apparatus of Webster reduces framing overhead by increasing the frame size when a degree of

> impairment of the communication medium is small, and reduces retransmission overhead by decreasing the frame size when a degree of impairment of the communication medium is large. Here, the degree of impairment of the communication medium indicates a degree of impairment of the data frame communication.
>
> A configuration arrived at through the combination of Langley and Webster provides for adjusting a degree of impairment of data frame communication (as taught by Webster) after a frame size is initially determined for a pair of endpoints by taking into account acceptable delays, including delays acceptable for time-sensitive information (as taught by Langley). However, in sharp contrast to Applicant's claimed invention, neither of these cited references, either alone or in combination, teaches or suggests adjusting a fragment size based on the ongoing transmission of time-sensitive information (e.g., audio packets).
>
> Although Langley recognizes a need to determine acceptable delays inclusive of time sensitive information, Langley none-the-less fails to recognize that conditions in regard to time sensitive information are changing. Although Webster recognizes the need to change a length of data frames in response to a degree of impairment of data frame communication, Webster fails to recognize a need to account for impairment as to time-sensitive information. As a result, there is no suggestion to combine the two references to teach Applicant's claimed method for changing packet fragment size by determining a parameter indicative of audio (time-sensitive) packet quality for ongoing packet transmissions, and dynamically changing fragment size in response to an ongoing determination of time-sensitive packet quality. These deficiencies are in addition not overcome by the other cited references.

The Examiner finds these arguments to be unpersuasive, asserting that Langley and Webster are properly combined to teach acquiring a parameter indicative of audio quality to dynamically change the fragment size of packets. In addition, the Examiner references column 6, lines 25 – 28 of Webster, which suggests that techniques for adjusting frame length should respond within a given period of time. (e.g., dynamically). In particular, Webster discloses a "'sliding window' of a predetermined number of frames (n) for accumulating retransmit of retry indications for determining or adjusting the frame length" (see, e.g., column 6, lines 33 – 36 of Webster). Within this window, n/m storage locations are created to store counts of the indications for each group of m frames that are assembled and transmitted (see, e.g., column 6,

lines 38 – 44). With this information, a new frame length is set for each group of m frames (see, e.g., column 6, lines 36 and 37).

Applicant amends independent claim 1 to further clarify the nature of his invention. In particular, Applicant claims a method which a fragment size is increased or decreased from a default size when a current value of an audio quality parameter deviates from an average value of the parameter by more than a predetermined threshold for a first predetermined period of time. In addition, according to Applicant's claimed method, the fragment size is restored to the default size when the deviation falls below the predetermined threshold for a second predetermined period of time. By implication, in the absence of either of these conditions, the fragment size remains unchanged.

Thus, in sharp contrast to approach taught by Webster, Applicant's claimed method does not operate to make an adjustment to each grouping of a specified number of fragments that is transmitted , but rather operates to adjust fragment size only when an audio quality parameter crosses a predetermined threshold boundary and remains across this boundary for a predetermined period of time (see, e.g., Applicant's FIG. 8). In comparison to the approach suggested by the combination of Langley and Webster, Applicant's claimed method provides the advantage of being less susceptible to short term shifts in performance ("spikes"), thereby making fewer unwarranted size changes and achieving greater efficiency.

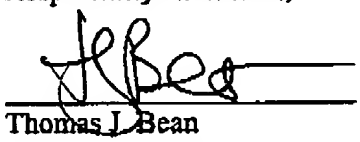
Accordingly, Applicant respectfully submits that the combination of Langley and Webster fails to teach or suggest the specific adjustment method disclosed by Applicant, and that amended independent claim 1 is therefore allowable. Applicant repeats the above arguments with respect to amended independent claim 7, which is amended to include substantially the same limitations as amended independent claim 1

Accordingly, Applicant respectfully submits that Applicant's claims 1 and 7 are not made obvious by the combination of Langley and Webster, and are therefore allowable. As claims 2 – 6 and 8 - 12 respectively depend from allowable claims 1 and 7, Applicants respectfully submit that claims 2 – 6 and 8 - 12 are also allowable for at least this reason.

CONCLUSION

An earnest effort has been made to be fully responsive to the Examiner's objections. In view of the above amendments and remarks, it is believed that 1 - 12, which include independent claims 1 and 7, and the claims that depend therefrom, stand in condition for allowance. Passage of this case to allowance is earnestly solicited. However, if for any reason the Examiner should consider this application not to be in condition for allowance, he is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Respectfully submitted,



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